**Hardy Weinberg Equilibrium Lab: Class Data**

Ms. Ottolini, AP Biology

**Case #1: Class Data**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Surviving Genotypes** | | |  | **Surviving Alleles** | | |
| **Generation** | **AA** | **Aa** | **aa** | **Total Individuals** | **A** | **a** | **Total Alleles** |
| Parental | **0** | **31** | **0** | **31** | **31** | **31** | **62** |
| F1 | **4** | **19** | **8** | **31** | **27** | **35** | **62** |
| F2 | **6** | **21** | **4** | **31** | **33** | **29** | **62** |
| F3 | **7** | **16** | **8** | **31** | **30** | **32** | **62** |
| F4 | **6** | **17** | **8** | **31** | **29** | **33** | **62** |
| F5 | **11** | **16** | **4** | **31** | **38** | **24** | **62** |

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| --- | --- | --- | --- | --- | --- |
|  | **Frequency of Genotypes** | | | **Frequency of Alleles** | |
| **Generation** | **p2 (AA)** | **2pq (Aa)** | **q2 (aa)** | **p (A)** | **q (a)** |
| **F5 (HW Theoretical)** | **(0.5)2 = 0.25** | **2(0.5)(0.5) = 0.5** | **(0.5)2 = 0.25** | **0.5** | **0.5** |
| **F5 (Actual)** | **11/31 = 0.35** | **16/31 = 0.52** | **4/31 = 0.13** | **38/62 = 0.61** | **24/62 = 0.39** |

**Case #2: Class Data**

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Surviving Genotypes** | | |  | **Surviving Alleles** | | |
| **Generation** | **AA** | **Aa** | **aa** | **Total Individuals** | **A** | **a** | **Total Alleles** |
| Parental | **0** | **29** | **0** | **29** | **29** | **29** | **58** |
| F1 | **6** | **23** | **0** | **29** | **35** | **23** | **58** |
| F2 | **9** | **20** | **0** | **29** | **38** | **20** | **58** |
| F3 | **14** | **15** | **0** | **29** | **43** | **15** | **58** |
| F4 | **17** | **12** | **0** | **29** | **46** | **12** | **58** |
| F5 | **19** | **10** | **0** | **29** | **48** | **10** | **58** |

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| --- | --- | --- | --- | --- | --- |
|  | **Frequency of Genotypes** | | | **Frequency of Alleles** | |
| **Generation** | **p2 (AA)** | **2pq (Aa)** | **q2 (aa)** | **p (A)** | **q (a)** |
| **F5 (HW Theoretical)** | **(0.5)2 = 0.25** | **2(0.5)(0.5) = 0.5** | **(0.5)2 = 0.25** | **0.5** | **0.5** |
| **F5 (Actual)** | **19/29 = 0.66** | **10/29 = 0.34** | **0/29 = 0.0** | **48/58 = 0.83** | **10/58 = 0.17** |